

CALIFORNIA, ~~STATE~~ BOARD OF HEALTH.

MONTHLY BULLETIN.

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STATE BOARD OF HEALTH.

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STATE BUREAU OF VITAL STATISTICS.

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STATE HYGIENIC LABORATORY.

ARCHIBALD R. WARD, D.V.M., *Director*

VITAL STATISTICS FOR JUNE.

Summary—For June there were reported 1,994 living births; 2,343 deaths, exclusive of stillbirths; and 2,366 marriages. For an estimated State population of 2,001,193, these figures give the following annual rates: Births, 12.1; deaths, 14.2; and marriages, 14.9. The corresponding rates for May were 11.7, 14.9, and 10.6. The notable rise in the marriage-rate is due to the fact that June is a favorite month for marriages.

The following counties led in the number of marriages: Los Angeles, 562; San Francisco, 384; Alameda, 310; and Santa Clara, 123. Next in order were Sacramento, 98; Marin, 83; Orange, 76; Fresno, 70; San Diego, 53; and San Bernardino, 52.

The freeholders' charter cities with the highest number of births were: San Francisco, 434; Los Angeles, 354; and Oakland, 203. Next were: Berkeley, 56; Pasadena, 49; Fresno, 36; San Diego, 29; Alameda, 28; and Sacramento, San José, and Stockton, each 26.

The cities with the greatest number of deaths were: San Francisco, 526; Los Angeles, 304; and Oakland, 169. Next in order were: San Diego and Stockton, each 47; San José, 43; Sacramento, 36; Berkeley, 35; San Bernardino, 30; Fresno, 28; Long Beach, 27; Pasadena, 26; and Alameda, 25.

The June deaths were distributed by geographic divisions, as follows: Northern California—coast counties, 85; interior counties, 170; total, 255. Central California—San Francisco, 526; other bay counties, 335; coast counties, 175; interior counties, 352; total, 1,388. Southern California—Los Angeles, 475; other counties, 225; total, 700. State total, 2,343.

Causes of Death.—The number of deaths in June was highest, not for tuberculosis, as usual, but for heart disease and allied ailments. There were 349 deaths, or 14.9 per cent of all from diseases of the circulatory system, against 329, or 14.0 per cent, from tuberculosis of the lungs and other organs. Third in order were diseases of the respiratory system, causing 219 deaths, or 9.3 per cent of all. There were 55 deaths from meningitis and 188 from other diseases of the nervous system, apoplexy, etc.

Typhoid fever, as is almost invariably the case, was the most fatal epidemic disease in the month, the per cent of total deaths from this disease being 1.5 for June, against 1.1 for May. The deaths from epidemic diseases in June were as follows: Typhoid fever, 36; diphtheria and croup, 25; measles, 24; whooping-cough, 21; scarlet fever, 12; influenza, 10; malarial fever, 6; and all others, 15.

The following table gives the number of deaths from certain principal causes for June, as well as the proportions from each cause per 1,000 total deaths for both June and May:

Cause of Death.	Deaths: June, 1907.	Proportion per 1,000.	
		June, 1907.	May, 1907.
ALL CAUSES.....	2,343	1,000.0	1,000.0
Typhoid fever.....	36	15.4	10.6
Malarial fever.....	6	2.6	2.8
Measles.....	24	10.2	11.0
Scarlet fever.....	12	5.1	6.3
Whooping-cough.....	21	9.0	5.9
Diphtheria and croup.....	25	10.7	7.5
Influenza.....	10	4.3	1.6
Other epidemic diseases.....	15	6.4	2.4
Tuberculosis of lungs.....	278	118.6	124.8
Tuberculosis of other organs.....	51	21.8	24.0
Cancer.....	127	54.2	48.8
Other general diseases.....	84	35.9	29.1
Meningitis.....	55	23.5	24.4
Other diseases of nervous system.....	188	80.2	80.3
Diseases of circulatory system.....	349	149.0	133.8
Pneumonia and broncho-pneumonia.....	166	70.8	89.0
Other diseases of respiratory system.....	53	22.6	27.6
Diarrhea and enteritis, under 2 years.....	75	32.0	24.4
Diarrhea and enteritis, 2 years and over.....	27	11.5	8.7
Other diseases of digestive system.....	111	47.4	59.1
Bright's disease and nephritis.....	134	57.2	57.5
Childbirth.....	24	10.2	10.6
Early infancy.....	89	38.0	35.8
Suicide.....	45	19.2	18.5
Other violence.....	214	91.3	100.0
All other causes.....	124	52.9	55.5

NOTICE TO UNDERTAKERS.

The State Bureau of Vital Statistics furnishes the United States Census Bureau at Washington with a copy of each death certificate filed in its office, and from these the United States Census reports of vital statistics are made out. The efficiency of the California statistics was considered perfect enough to warrant the State being accepted as a registration state, a position attained by only fifteen other states, and they, with the exception of Colorado and South Dakota, all east of the Mississippi River. Two states during the past few years have been dropped from the list of registration states because of their failure to keep up to the standard.

The Census Bureau has been investigating the California returns and find many deaths not reported. The result, if this continues, will be to drop California from the list of registration states, which will be an announcement to the world of the inefficiency of the State to properly do its duty. The duty of making out death certificates is upon the undertakers, and it is a misdemeanor to bury or otherwise dispose of a dead body without properly filling out a certificate and securing from the registrar or sub-registrar a burial permit. This law must be

respected, and whenever a violation is discovered it will be reported to the legal department for prosecution.

MEETING OF STATE BOARD OF HEALTH.

The regular quarterly meeting of the State Board of Health was held in the office of the Secretary in Sacramento on Friday, July 12th.

The main subjects of discussion were, "The education of the people as to the best means of curing and preventing tuberculosis," and "The location of the Pure Food Laboratory and selecting its Director."

The last Legislature appropriated \$2,000, which the Board is to use in disseminating knowledge in regard to the best means of preventing and curing tuberculosis. The State is so large, the subject so extensive and important, and the sum so relatively small, that it is difficult to expend it with any very extensive hopes of apparent results.

Maryland requires the registration with the State Board of Health of every case of tuberculosis by the attending physician, and when this is done, furnishes the patient an outfit of spit cups, paper napkins, disinfectants, etc., and full instructions as to care so as not to infect others. The physician is paid \$1.50 for reporting and seeing that instructions are properly understood. The law requires that secrecy be maintained, and the officers are not allowed to talk of the cases except among themselves.

Good results are following this method, but it is impossible for the California State Board of Health to follow the plan, for two reasons: First, physicians are loath to obey the State law requiring the reporting of cases of tuberculosis; and second, the cost would be prohibitive with our small appropriation.

The idea of an illustrated lecture delivered throughout the State, with the distribution of short, terse slips of reading matter, was considered with a good deal of favor, and steps are being taken to study its advisability.

The Pure Food and Drug laws passed by the last Legislature are in effect so far as to make it unlawful to manufacture impure food or drugs. The establishment of the laboratory and examination of samples do not, however, go into effect until January 1, 1908, and until that time the same laws, or want of them, exist as before, and we can expect the foam on our soda water to be made from soap bark, and our raspberry jam from apples—we hope nothing worse.

The Board decided to locate the laboratory at the State University laboratory in Berkeley, and appointed Prof. M. E. Jaffa as Director. No assistant has as yet been appointed. It is the object of the Board to do earnest, honest work for the State; to limit as much as possible the production and sale of impure products, and to protect the honest manufacturer and dealer. The appointment of Professor Jaffa, who has a world-wide reputation as an expert food chemist, is a guarantee that the work will be done in an efficient and honest manner, for his reputation for integrity is equal to that for ability.

PLAGUE.

"Oscar Tomie, aged 24, native of Finland, occupation given as a sailor, and employed upon the 'tug 'Wizard,' was taken ill on May 24th and admitted to the U. S. Marine Hospital at San Francisco. On the

evening of May 26th the patient died, and the circumstances surrounding it appearing suspicious, an autopsy was ordered performed by the hospital authorities, at which autopsy Dr. Currie of the Public Health and Marine Hospital Service was present as a witness. A post-mortem diagnosis of bubonic plague was made. On May 27th, the Board of Health was notified of said findings, and the Chief Sanitary Inspector and Bacteriologist was ordered to investigate. Specimens of tissue were taken from the spleen; cultures were prepared, and pigs inoculated, which after five days, died, and upon autopsy showed the cause to be bubonic plague.

"The history of the patient is indefinite so far as his local residence is concerned. The latter was given as 247 Steuart street, a rooming house known as the Pioneer Hotel, where, three weeks prior to his being admitted to the hospital, he had engaged a room and taken some of his effects thereto; but according to the statement of the proprietor, he had slept but one night in the room during the three weeks. This room was disinfected with sulphur and kept sealed for five days, after which it was opened by an inspector of this department. All dunnage of the patient, as well as all blankets, mattresses, and other movable contents in the room, were destroyed by fire. The walls were then ordered whitewashed and repainted.

"The tug 'Wizard' leaves an erratic history. She left this port about the 4th of May, and made one round trip to Coos Bay, returning to Howard Street Wharf No. 2 on the 12th of May. On the 13th, she left Howard Street Wharf No. 2 and went to Oakland Creek to haul scows, and remained on this work during the 14th, 15th, 16th, 17th, and 18th, returning to Howard Street Wharf No. 2 on the latter day. The period of infection in the case, in all probability, was on either the 16th, 17th, or 18th. During this time the boat was in Oakland Creek, tied up at night at Boole's Wharf. On the night of the 18th, she tied up at Howard Street Wharf No. 2. One point that may have a bearing on the question is in the fact that the Matson Navigation Company's vessel from Honolulu and Hilo tied up at the same wharf.

"Upon obtaining the above information, this department forwarded a request to Dr. W. C. Hobdie, medical officer in command of the San Francisco Quarantine Station at Angel Island, requesting that said tug 'Wizard' be immediately taken charge of on her return to this port and properly disinfected. This, however, was made unnecessary, as on Friday, the 7th inst., the final chapter in the history of the 'Wizard' and her crew terminated.

"On the 29th of May, while towing the barkentine 'Northwest' from San Francisco, the 'Wizard' struck at 2:20 in the afternoon, sinking at 2:30. The crew, twelve in number, escaped to the barkentine 'Northwest'; they remained on board the 'Northwest' until the 5th ult., when, owing to a shortness of provisions, half of the crew, six in number, was transferred to the schooner 'Henry Wilson,' bound to this port with a cargo of lumber. On the morning of the 6th ult., for the same reason, the remaining six members of the crew were transferred to the steamer 'Atlas' bound for Port Harford for oil. On the morning of the 7th ult., at 9 o'clock, the 'Atlas' transferred these six men to the steamer 'City of Puebla,' bound for San Francisco.

"The above data were obtained by Dr. Hobdie from the captains of the respective vessels mentioned. On the morning of the 7th, Dr. Hobdie

boarded the 'City of Puebla' and gave the shipwrecked sailors a thorough examination, using both the thermometer and glandular method. It was then nine days from the date of the sinking of the tug 'Wizard.' None of the men had any temperature; none had any glands enlarged, and all were passed.

"Dr. Hobdie further reports, and we concur, as follows: Owing to the suddenness with which the catastrophe occurred, the men had to leave the 'Wizard' in whatever clothing they happened to have on at the moment; in only one or two instances did any escape with as much as an extra suit of underwear. For this reason, it is not believed that there was any danger of infecting the vessel to which they were subsequently transferred, by means of other dunnage, but only in case one of the men actually came down with the disease while on board. The same precautions were taken in the examination of the remainder of the crew that arrived at this port on the schooner 'Henry Wilson' late in the afternoon of the 7th. None of the men were sick, and none had temperatures, and all were passed. Owing to the number of transfers that were made, the situation might have been complicated, but no man was taken ill in any way while on these various vessels. Their dunnage was practically nil, and it is believed that we have heard the last from a sanitary standpoint, of the crew of the tug 'Wizard,' just as we have heard the last of that ill-fated vessel herself.

"This department endeavored to trace the officers and crew of the vessel, but owing to the disturbed conditions, it was impossible to locate the shore residence with any degree of accuracy of any of the officers or crew."

The foregoing is a complete and concise report of the case of plague which occurred in San Francisco in May, furnished by the San Francisco Department of Health. No other cases have resulted and no death of rats has been observed, nor have any infected ones, as yet, been found.

The point of greatest interest in the report is the statement that the "Wizard" was tied up beside a Honolulu vessel. There is no probability that any precaution was taken to prevent rats from passing from one vessel to the other. The Hawaiian Islands have for a long time been having occasional cases of plague, and recently they have been quite frequent. In California no cases have occurred since the fire in April, 1906, when the portion of the city in which it existed a few years ago was completely destroyed. It seems a reasonable conclusion that the infection was from rats on board the vessel from the Islands, and not from any California focus.

Whether this conclusion is correct or not, the fact remains that as long as the Hawaiian Islands are infected the United States are in constant danger of infection. Naturally, San Francisco and Oakland will be in the most danger of infection, as they are in closer communication, but other seaport towns are in danger, and it would not be impossible for an infected rat to stow away in some freight car and visit and infect his relations along the line of railroad on which he chooses to travel. Once implanted in the Middle West and East, it would claim many victims before the end.

The danger is not visionary, but is decidedly imminent, and should certainly appeal strongly to the United States Government. The

United States Public Health and Marine Hospital Service have skilled men and have ample ability to properly handle the situation. They are doing all they possibly can with the means at hand to protect the mainland from infection, but they have no jurisdiction over coasting vessels, nor do they have officers in every port. They should be furnished with sufficient means and sent to the Islands to make a thorough investigation and eradicate the disease. While the expense might be considerable, it would be small compared with the cost of fighting it should it once get thoroughly rooted in this country.

As long as the disease exists there it will be a menace to the States, for there is always a big possibility of its getting by any watch that can be kept. The Hawaiian Islands being a stepping-stone to and a part of this country should not be expected to fight the trouble themselves. It is an equal protection to us and we should pay the bills.

THE CONTROL OF DIPHTHERIA BY LABORATORY METHODS.

By A. R. WARD, Director of State Hygienic Laboratory.

Diphtheria, of all the infectious diseases, gives the best opportunity for the successful application of bacteriological methods for its diagnosis and control. This is due to the circumstance that the lesions are most commonly situated in the throat, a location readily accessible for bacteriological examination.

The clinician who ignores the value of bacteriological examinations, or who is unable to utilize the same, recognizes the usual form of diphtheria by the character and location of the diphtheritic membrane, together with certain constitutional symptoms. To such physicians the membrane is an important factor in the diagnosis of the disease, and the termination of clinical symptoms is the only means of determining the end of danger of transmitting infection. Without the assistance of bacteriological methods the diagnosis of diphtheria, even when a membrane is present, is most difficult. The mild cases, in which no diphtheritic exudation is formed, utterly escape recognition unless some other member of the family develops diphtheria with typical lesions.

From the standpoint of the bacteriologist, any lesion in the throat associated with typical diphtheria bacilli is diphtheria, whether the typical membrane appears or not. The extent of the lesion may be restricted by reason of the resistance of the patient, and yet another may contract a serious case of diphtheria from the mild case. The bacteriologist goes even farther, for he regards with grave suspicion a well person harboring virulent diphtheria bacilli in his throat or nose. Such "germ cases" may or may not contract clinical diphtheria, but in any event they are regarded as just as dangerous sources of infection as clinical cases—more so, on account of the absence of quarantine restrictions.

Bacteriological methods likewise furnish an exact method for determining the proper time to release from quarantine. It has been demonstrated that in certain cases virulent organisms persist in the throat and nose long after recovery. Such cases, when freed from quarantine restrictions, constitute a serious source of infection. Ex-

perience has shown that two successive negatives* from both throat and nose constitute the best guarantee that the convalescent is free from danger of transmitting infection. In Boston, such has been the practice for the past eight years.

The facts revealed by the study of the bacteriology of diphtheria have suggested efficient methods for its control in families, schools, and institutions. Some exceedingly valuable object lessons in the control of diphtheria have been made by Dr. F. F. Wesbrook and associates, under the auspices of the Minnesota State Board of Health.

The existence of an epidemic of diphtheria in one of the schools of Berkeley afforded an opportunity to make an exhaustive trial of the control of diphtheria by strictly laboratory methods.

The results as reported in the Bulletin for January, 1907, indicate that the State Hygienic Laboratory may be made a useful agent in assisting local health officers in the control of school epidemics. At the opening of the schools in the autumn, it is hoped that the work of the laboratory may be extended by undertaking vigorous measures in other cities than Berkeley. With the laboratory at Berkeley as a base of supplies, temporary work by a representative of the laboratory may be undertaken anywhere.

It is the hope and desire of the State Board of Health to take up the work suggested by Dr. Ward this fall. There are some towns in the State that have cases of diphtheria almost every month in the year. There are doubtless "bacteria carrius" in the school, who, while not sick, have the active germs in their throat or nose and communicate them. Upon request from any locality which has not a bacteriological laboratory the Board will arrange to have an expert sent and cultures made from the throats of all the pupils, and feel satisfied that the disease can be stamped out. Lives will be saved—and they are worth saving—if the local health and school authorities will coöperate with the State Board in this matter.

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The following from Paul Kennaday, Secretary of the Committee on the Prevention of Tuberculosis, in New York City, is a good synopsis of a recent bulletin:

THE WAY MILK IS INFECTED.

AN IMPORTANT ANNOUNCEMENT FROM THE GOVERNMENT BUREAU OF ANIMAL INDUSTRY.

The United States Department of Agriculture has issued a bulletin which points to the conclusion that the real danger from tuberculous cattle lies in the manner in which the germs of tuberculosis are disseminated with their feces and that it is almost entirely through this medium that milk becomes infected with tuberculosis. By a series of careful tests at the Government Experiment Station in Washington, Dr. E. C. Schroeder and W. E. Cotton have demonstrated that cattle discharge germs of tuberculosis in very large numbers, to the extent

* B. R. Rickards, "The value of two consecutive negative cultures as a method of releasing diphtheria patients." American Journal of Public Hygiene and Journal of the Massachusetts Association of Boards of Health, Vol. XVI, November 1906, No. 4, p. 25.

very often of over thirty-seven million in one day. Not only animals which show physical signs of tuberculosis, but also those so slightly infected that the diagnosis of tuberculosis depends entirely upon the application of the tuberculin test, are said to be in this manner active and dangerous sources of infection.

It is pointed out that the dairymen can not afford to use precautions, the cost of which is so great that their applications would convert their business into a philanthropic enterprise, but that without such care it is practically impossible to prevent the entrance into the milk pail of the germs of tuberculosis which have been discharged by tuberculous cattle and which are lodged on the cows and in and about the cow stables. These conclusions were reached after a series of careful tests with a number of cows which, though they had tuberculosis, were said to be in better condition than the majority of dairy cows in actual use on dairy farms. The slight infrequent cough with which they were affected would not have attracted the attention of the casual observer and might have been honestly attributed by most dairymen to dust in the air of the stable. For the most part tuberculosis would not have been suspected in the case of these animals had they not been tested with tuberculin, a test, as it is said, not usually made by the farmer until there is grave cause for the suspicion of tuberculosis.

In making these tests normal fresh milk, free from tuberculosis, was soiled with about as small a mass of feces as would enter the milk in a dairy stable in which average cleanliness was observed. This milk was then injected into guinea-pigs and it was found upon post-mortem examination that 16 of the 46 killed had developed tuberculosis. It is concluded from these researches that milk from tuberculous cows with unaffected udders is free from infection until it has become contaminated with feces or some other material that contains tubercle bacilli from the outside of the cows or from their environment. It is not believed that tubercle bacilli are eliminated with the milk from tuberculous cows unless disease of the udder or structures connected with it is present. This conclusion is drawn from the present series of investigations and is supported by earlier work relative to the milk of tuberculous cows. The present investigations include only a few cows and a comparatively small number of guinea-pigs. The earlier investigations extend over a dozen years, during which milk from scores of tuberculous cows was injected into the abdominal cavities of hundreds of guinea-pigs.

The observations made are said to definitely show that the frequency with which milk contains tubercle bacilli is greatly underestimated, especially when it is milked in the customary way from tuberculous cows with healthy udders, or from entirely healthy cows in a tuberculous environment.

As no means are known by which it can be determined when cattle become dangerous to the health of persons or animals, every cow affected with tuberculosis must be regarded, in the opinion of the Government experts, as positively dangerous. In view of the undoubted presence of tuberculosis in a very large number of cattle, whose owners have no cause to suspect that this is so, it is urged that every cow should be periodically tested with tuberculin. Every cow that reacts and thus shows that she has tuberculosis should at once, regardless of her general appearance or condition, be removed from use as a dairy cow and from all contact with dairy cattle or healthy animals.